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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,065

12/08/2005

Oskar Axelsson

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36335

7590

10/17/2011

GE HEALTHCARE, INC.

IP DEPARTMENT 101 CARNEGIE CENTER

PRINCETON, NJ 08540-6231

EXAMINER

SCHLIENTZ, LEAH H

ART UNIT

PAPER NUMBER

1618

NOTIFICATION DATE

DELIVERY MODE

10/17/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

MDUSPatents@ge.com

Office Action Summary	Application No.	Applicant(s)	
	10/560,065	AXELSSON ET AL.	
	Examiner	Art Unit	
	Leah Schlientz	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-5,7-11,13-21,23-25,27-30,39,41,44-53 and 62 is/are pending in the application.
- 5a) Of the above claim(s) 16,28-30 and 44-53 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-5,7-11,13-15,17-21,23-25,27,3,41 and 62 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/11 has been entered.

Status of Claims

Claims 1-5, 7-11, 13-21, 23-25, 27-30, 39, 41, 44-53 and 62 are pending, of which claims 16, 28-30 and 44-53 are withdrawn from consideration at this time as being drawn to a non-elected invention. Claims 1-5, 7-11, 13-15, 17-21, 23-25, 27, 39, 41 and 62 are readable upon the elected invention and are examined herein on the merits for patentability.

Response to Arguments

Any rejection not reiterated herein is withdrawn as being overcome by claim amendment. New grounds of rejection are set forth herein in view of newly discovered prior art references.

Double Patenting

Claims 1-5, 7-11, 13-15, 17-21, 23-25, 27, 39, 41 and 62 are provisionally rejected on the grounds of obviousness-type double patenting over the claims of copending Application Serial No. 11/913,079 for reasons set forth in the previous Office Action.

Applicant requests that the rejection be held in abeyance until allowable subject matter is indicated.

The rejection is maintained at this time because no terminal disclaimer has been received.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1-5, 7-11, 13-15, 17-21, 23-25, 27, 39, 41 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hainfeld (WO 03/075961) in view of Kormann *et al.* (US 6,251,366) .

Hainfeld teaches metal nanoparticles useful for contrasting the radiation of x-rays (abstract). Particle diameter includes 0.5 to 500 nm, including 1.4 to 2 nm (claims 3-5). Each metal nanoparticle has a non-metallic surface layer surrounding each metal core (claim 6). Core may be composed of tungsten (claim 7). The core has a surface layer, including polymer (page 17, line 8). Regarding instant claim 11, mixtures of metals may be found in the core (e.g. iridium, see page 16).

Hainfeld does not specifically recite the identity of the polymer which is used as surface layer.

Kormann teaches dispersions of magneto-ionic particles consisting essentially of superparamagnetic solid particles and at least one polyelectrolyte as dispersing substance in water for the preparation of an MRI contrast medium (abstract). The magnetic particles or mixtures containing these particles are coated with polyelectrolytes. The polyelectrolytes bring about not only a suitable steric stabilization but also an increase in the surface charge of the solid particles. Essential in this connection is the pH, which influences the stability of the suspension. It is possible, by altering the pH, to adjust in a suitable manner the charge carrier concentration in the polyelectrolytes and the volume of the absorbate layer. When anionic polyelectrolytes are used, it has proven expedient for the pH to be greater than their acid constant (pKa), whereas in the case of cationic polyelectrolytes the pH is preferably less than the

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pKa. A plurality of polyelectrolytes with a molecular weight of from 1,000 to 25,000 is suitable. These polymers preferably have from 5 to 1,000 charges in the molecular framework. Particularly suitable polyelectrolytes are from the group comprising *polyacrylate, acrylic acid, acrylic acid/acrylamide copolymers*, etc. In the case of the polyacrylates, a pH range of from 2 to 12 has proven particularly advantageous (column 3). See also Examples 1-5 including polyacrylic acid coating.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a coating comprising an acrylic acid polymer on tungsten nanoparticles when the teaching of Hainfeld is taken in view of Kormann. While Hainfeld teaches that tungsten is suitable as a metallic nanoparticle for x-ray imaging, and teaches polymer as a surface layer, the specific type of polymer is not specified. Therefore, one of ordinary skill in the art would have been motivated to look to other teachings of coating known in the art to be used for inorganic particulate contrast agents, such as polyacrylic acid as taught by Kormann. One would have had a reasonable expectation of success in using polyacrylic acid as the surface layer polymer because Kormann shows that such polymers provide the advantage of suitable steric stabilization but also an increase in the surface charge of the solid particles.

Regarding claim 5, wherein the diameter of the particle is in the range of 2 to 6 nm, it is noted that Kormann teaches 8 nm as the diameter of the colloidal unit (column 3) however, it would have been obvious to slightly modify the size of the coated particle as a matter of routine experimentation in order to obtain optimal contrast, especially since Hainfeld teaches 1.2 to 2.4 as desirable particle size.

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Regarding the limitation of the instant claims wherein the charged coating layer is “to passivate the core,” the intended use of the coating layer is not given patentable weight to distinguish over Hainfeld because the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Since Hainfeld discloses compositions that meet the structural limitations of the instant claims, they would be capable of performing the intended use.

Conclusion

No claims are allowed at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leah Schlientz whose telephone number is (571)272-9928. The examiner can normally be reached on Monday-Wednesday 9 AM-5 PM and telework Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LHS/

/Michael G. Hartley/
Supervisory Patent Examiner, Art Unit 1618